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SEASONAL VARIATIONS IN SPENDING OF FARM FAMILIES //

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Making a budget work consists in tailoring expenditures to fit income. We may begin this process by matching the outlays that must be made and that we would like to make against the income that will be available in the course of a year and adjusting these figures until we get a balance between them. But this will be only part of our task. The year is 52 weeks long. We eat week in and week out and have to pay for food and many other recurrent expenses as we go along. There are also some rather sizable outlays to be made at fixed intervals--insurance and taxes, for instance. The income out of which we must meet these demands may come in an even flow as weekly or monthly salary payments or it may be highly seasonal--concentrated in the sale of a single crop, perhaps.

To develop a workable budget we need to mesh our outlays and income in such a way that we provide for expenditures as they come due. This may mean building a reserve to carry us over periods of low income, fitting expenditures into our income pattern as much as possible, or planning for the use of credit. In any case it involves knowing quite a bit about the pattern of expenditures and the flow of income within the year.

Families that have kept accounts can look back over them and determine what these patterns are. Many families, however, will not have this guidance out of their own pasts and will need to find this information elsewhere. For families such as these the seasonal patterns revealed in the accounts of a group of Michigan farm families may prove helpful.

The data presented here are taken from farm and home accounts for the year 1957 submitted to Michigan State University by 80 families as part of the University's project in continuous accounting. The analysis of these home accounts has been undertaken as a joint project of the University and the Household Economics Research Division. This small group of families consists of people who volunteered to keep accounts or whose cooperation was enlisted through the Extension Service. They are not necessarily representative of all farm families in the State. While the exact relationships reported here might be different in a sample of families selected on a scientific basis, we think the generalizations apply to many families.

Presented at the 36th Annual National Agricultural Outlook Conference,⁹
November 19, 1958, Washington, D. C.

Income

Since income forms one side of the balance in the budgeting operation, the income pattern of these families might well be examined first. Variation in the flow of their income must be taken into account as a possible reason for any seasonal variation in expenditures.

As is to be expected of a group of farm families, their income was not constant throughout the year. For the group as a whole, net cash income 1/ was lowest in the first quarter (January, February, and March) and highest in the third (July, August, and September). Income in the peak quarter was half again as large as in the low quarter.

Total family living expenditures

Spending for family living was lowest in the second quarter of the year and rose to its highest point at the year's end. The variation over the course of the year was not great, however. At its lowest, spending was little more than 10 percent below the level that would be found if there were no seasonal variation; in the high fourth quarter it was only 17 percent above this "no variation" level.

Since we are dealing with the total of the family's living expenses and the amounts involved are therefore relatively large, these differences are of a size to merit consideration in budgeting. These families were spending \$230 per quarter more at their peak rate of spending than at their lowest rate. The increase in prices over the year accounts for only a small part of this difference.

This spending pattern might be compared with that for all U. S. consumers, about two-thirds of whom are city dwellers. The personal consumption series of the Department of Commerce indicates that for the nation as a whole expenditures were highest in the third quarter of the year and then declined in the fourth quarter "about in line with the reduction in consumer incomes." 2/

The spending pattern of these farm families appears to be related to the flow of their income. Income and spending followed the same general pattern but spending lagged a quarter behind income and tended to be more moderate in its seasonal variations. The peak in income, for example, came in the third quarter and accounted for 30 percent of the year's total income while the peak in consumption expenditures came in the fourth quarter and accounted for 29 percent of the year's spending. The low point for income was in the first quarter when only 20 percent of the year's total came in and the low point in consumption spending was in the second quarter with 22 percent of total spending.

1/ Net income before payment of income and personal taxes. Includes farm and nonfarm income.

2/ United States Department of Commerce, Office of Business Economics, Survey of Current Business, vol. 38, No. 4, April 1958, p. 5.

In interpreting this relationship it must be borne in mind that for this group as a whole expenses in a quarter were always less than income in that quarter, even when income was at its lowest point. Moreover, as the later discussion will make clear, there is considerable evidence that much of the peaking in spending must be attributed to seasonal needs for the goods bought or seasonal opportunities for spending. These considerations suggest that there may be an element of chance in the relationships between income and spending patterns found here. These findings are of considerable interest, however, since it is generally considered that the spending of farm families is not responsive to short-term fluctuations in income. They should be investigated further as opportunity arises.

Food and beverages

For the group as a whole, spending for food and beverages showed remarkable stability throughout the course of the year. Expenditures in a quarter were never less than 24 percent nor more than 26 percent of the year's total. The difference between the averages for the highest and lowest quarters was only \$20.

Many of the individual accounts showed considerable seasonal variation. When expenditures were high during the third quarter (July, August, September), it could frequently be attributed to the presence of extra farm help and guests. Bulk buying of food for preservation at home also affected the seasonal pattern of expenditures. Expenditures for meat for the freezer were usually made in the fourth or first quarters and were frequently large enough to cause considerable peaking in the individual accounts. Even expenditures for the slaughtering and processing of home-produced meat were sometimes of sufficient size to affect the seasonal patterns of individual families. Bulk purchases of fruits and vegetables for canning or freezing appeared to be less important as a cause of individual variation but nevertheless occasionally contributed to peaking in the third quarter.

In these accounts meals bought while the family was on vacation were frequently reported in recreation. Had it been possible to identify these vacation meals and transfer them to food expense, there might have been somewhat more variation between seasons in the spending for food.

Expenditures for school lunches did not cause any appreciable seasonal variation in spending for food and beverages in this group of families. Apparently the cost of school lunches approximated the cost of the meals served at home.

Clothing

Of the categories considered in this paper, clothing shows the greatest seasonal variation in expenditures. Since it is a major category, it contributes substantially to the variation in total spending already discussed.

Clothing expenditures were lowest in the first quarter, taking only 19 percent of the year's expenditure, and highest in the fourth quarter, when the amounts reported constituted 32 percent of the total. The figures for the fourth quarter are an understatement, however, as many of the accounts list gifts at this season and it can be assumed that some of this was clothing bought to be given family members at Christmas. On the figures as reported, there was a difference of about \$55 between the lowest and highest quarters, but this also understates the real difference.

Although the pattern for the group of families as a whole indicates no seasonal variation in spending for clothing in the two middle quarters, it was not unusual for individual families to have relatively high expenditures in one or the other of these as well as in the fourth. This secondary peaking occurred about equally in the two quarters so that for the group as a whole it balances out. When this is taken into consideration, it is apparent that the pattern of this group of families was to replenish their wardrobes twice a year. The buying of winter clothing seems to be rather heavily concentrated in the fourth quarter, although some of the third quarter buying may have been of this nature, particularly in preparation for the school year. The buying of light-weight clothing may take place in either the late spring or early summer.

Household operation

Spending for household operation ^{3/} also showed more seasonal variation than did total consumption expenditures. In this category expenditures were at their highest in the two winter quarters, the first and the fourth. These quarters together account for 58 percent of the year's spending. The difference in the amounts spent in these high quarters and the low third quarter was about \$45.

Purchases of fuel to heat the house account for much of the rise during the winter months. Payments to household help during the first, second, and fourth quarters when more homemakers were employed off the farm also had some effect. Other expenditures included in this category did not appear to be seasonal in nature.

Medical care

This category showed relatively little seasonal variation in expenditures for the group of families as a whole. The quarters never varied as much as 10 percent from the amount the family would have spent had the distribution between the quarters been even. What little variation there was was in the direction of higher expenditures in the first and fourth quarters and can be attributed largely to the higher incidence of illness in the winter months. The difference between expenditures in the high and low quarters was only \$12 for the group as a whole.

^{3/} Includes minor items of furnishings and equipment.

Individually, however, families showed considerable seasonal variation in their medical expenditures. It was not unusual for a family to spend over half its year's total in one quarter, and conversely, in another quarter to spend little or nothing. This is to be expected from the nature of medical expenses. Some, like the purchase of standard remedies, preventive care such as dental and physical checkups, and the treatment of chronic conditions, are routine and repetitious, but others, those related to acute illnesses, are unpredictable and spasmodic in occurrence. This is what makes it so difficult to budget for medical care except through insurance.

Education and recreation

The families submitting these accounts showed great variation in their spending for education and recreation from one season to another both as a group and individually. The low and high spending periods for the group occurred in the middle quarters of the year-- low in April, May, and June (approximately 20 percent of the year's outlay), and high in July, August, and September (32 percent of the year's outlay). Contributing to the high spending in the third quarter were, on the education side of the ledger, tuition and other school expenses, and on the recreation side, vacations (which could include food, lodging, and transportation), trips to county fairs, and payment of dues to organizations. It was not unusual for some of these families to spend one-half or more of their year's outlay in one quarter, commonly in July, August, and September.

Although there was as much seasonal variation percentage-wise in education and recreation expenditures as in any of the categories considered in this paper, dollar differences in spending from quarter to quarter for the group as a whole were small because this is a minor category. On the average, these families spent only about \$175 per year here. Consequently the variation between high and low quarters was less than \$25.

Effect of income and family characteristics on seasonal variation in spending

We are all familiar with the effects of income and the various other characteristics of families on the level of their annual expenditures. These relationships have been developed in the analyses of many expenditures surveys and studies of household accounts over the years. On the basis of this analysis of a rather small body of data, it would appear that these factors have much less effect on the seasonal pattern of expenditures than they do on the annual level.

Seasonal patterns of spending for total consumption and for food, clothing, and household operation were found to be much the same for families in the upper half of the income distribution as for families in the lower half, for larger families as for smaller families, for older families as for younger families. Seasonal differences in spending for education and recreation and for medical care did appear to be related to the level of income, family size, and position in the family life cycle.

In spending for education and recreation, families with incomes of \$5,000 and over, families of 5 or more persons, and families whose oldest child was 9 or more showed one general pattern and families with incomes under \$5,000, 4 or fewer members, and no children 9 or more showed another. There was greater seasonal variation in the first pattern, with approximately two-thirds of the spending concentrated in the last half of the year as contrasted with 58 percent in the case of the less well-off, smaller, younger families. In spending for medical care the more well-to-do and larger families differed from the less well-to-do and smaller families, the latter again showing less seasonal variation.

Why certain family characteristics should be related to the seasonality of expenditures for education and recreation but not to the seasonality of food, clothing, and household operation expenditures seems clear. The latter categories consist of goods or services that tend to be bought more or less repeatedly throughout the year. In most cases there is no one-time expenditure that dominates the category. With education and recreation, however, the educational expenses associated with the beginning of the school year and vacation expenses loom large in the total and both tend to be one-time outlays coming at specific periods of the year. When, therefore, a factor operates to increase one of these expenditures, as the presence of school-age children increases beginning-of-the-school-year educational expenses or high income increases the probability that the family will take a vacation, seasonal variation is also accentuated.

It is harder to explain why income and family size affect the seasonality of medical expenses. Indeed this finding may result only from chance. Medical care is, after all, one of the categories showing greatest variability in expenditures. The relationships between the patterns of the two groups were tested and found to be significantly different at the 5 percent level, but we may be dealing here with that one chance in 20.

Conclusions

The findings that are reported here are based on the accounts of a small self-selected group of farm families and may, therefore, not be representative of the spending patterns of the farm population. We think, however, that there is probably considerable similarity in the patterns of these and other farm families since we have demonstrated that characteristics such as level of income, family size, and position in the family life cycle, characteristics as to which this group can be expected to differ from the general farm population, have little influence on the seasonality of spending.

Since averages tend to balance off differences and, therefore, to even out variation, the patterns presented here can be taken as the minimum amount of variation families can expect. We think that this minimum is enough to indicate that families need to follow through in their budgeting from the allocation of amounts for the year to quarterly or monthly allotments as the expenditures will be made. They will also need to compare these with estimates of how their income will come in, and see that provision is made for meeting expenditures when they fall due.

Seasonal variation in expenditures, by quarters, for total family living and for categories,
for 80 Michigan farm families, 1957

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Quarter	Total family living			Food		Clothing		Household operation	
	Percent year's total	Average amount spent	Percent year's total	Percent year's total	Average amount spent	Percent year's total	Average amount spent	Percent year's total	Average amount spent
First	25	\$794	24		\$222	19	\$64	30	\$136
Second	22	708	24		225	25	86	23	108
Third	24	749	26		245	24	85	19	90
Fourth	29	937	26		245	32	111	28	132

Quarter	Education and recreation		Education and recreation		Medical care		Medical care	
	Education total group pattern	Average amount spent	Income under \$5,000	Income \$5,000 and over	Total group pattern	Average amount spent	Income under \$5,000	Income \$5,000 and over
	Percent year's total	Average amount spent	Percent year's total	Percent year's total	Percent year's total	Average amount spent	Percent year's total	Percent year's total
First	22	\$40	24 a'	16 a"	27	\$79	28	25
Second	20	36	18	19	23	68	25 c'	18 c"
Third	33	59	34	36	23	67	21 d'	28 d"
Fourth	25	46	24 b'	29 b"	27	79	26	29

a' a" - Difference between income levels was statistically significant at the 5 percent level as measured by an approximation to the "t" test.

b' b" - Same as above.

c' c" - Same as above.

d' d" - Same as above.

Chart 1.--SEASONAL VARIATION IN INCOME AND TOTAL EXPENDITURES
FOR EIGHTY MICHIGAN FARM FAMILIES, 1957

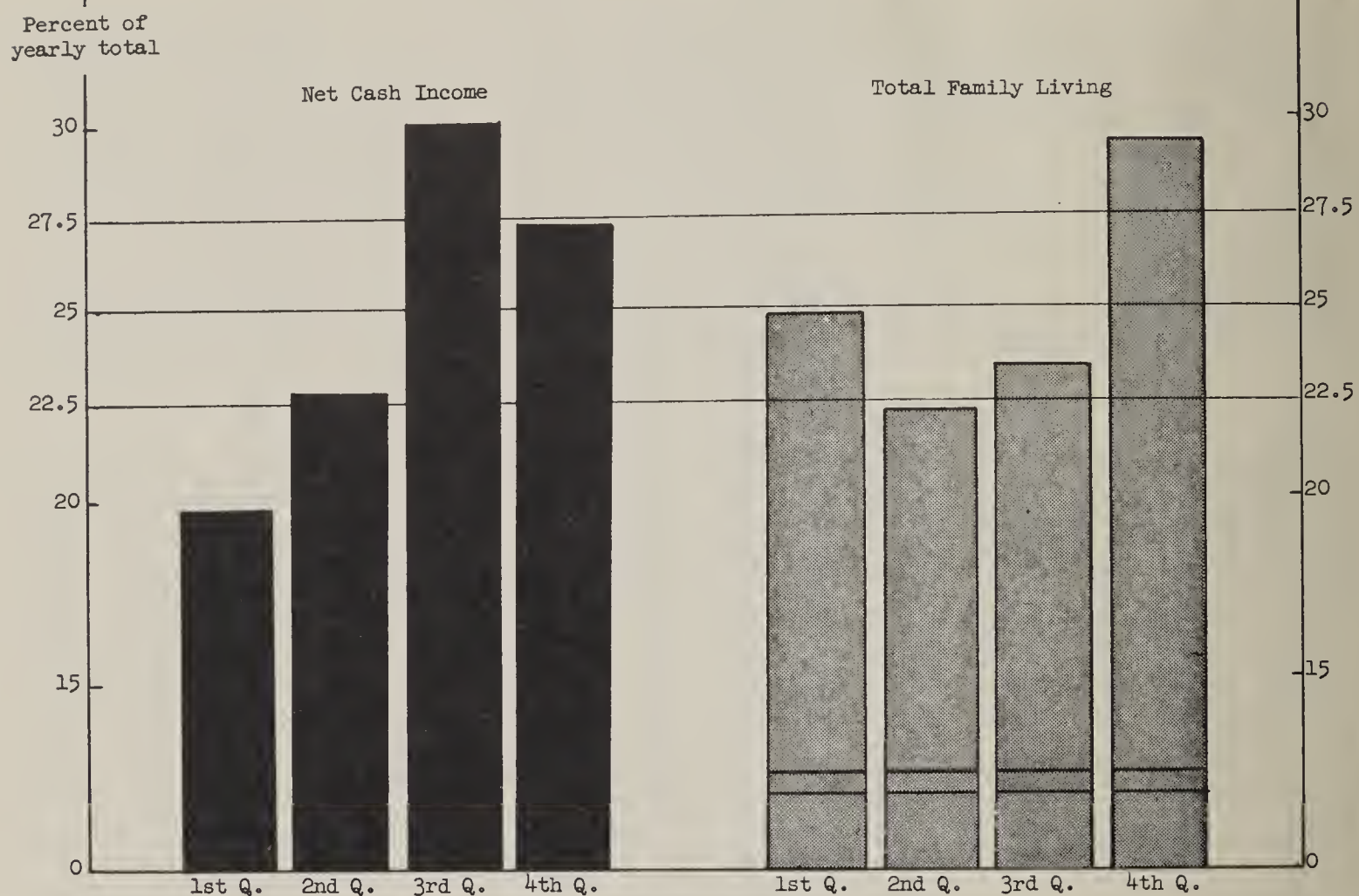


Chart 2.--SEASONAL VARIATION IN EXPENDITURES FOR FOOD, CLOTHING, EDUCATION AND RECREATION,
FOR EIGHTY MICHIGAN FARM FAMILIES, 1957

